

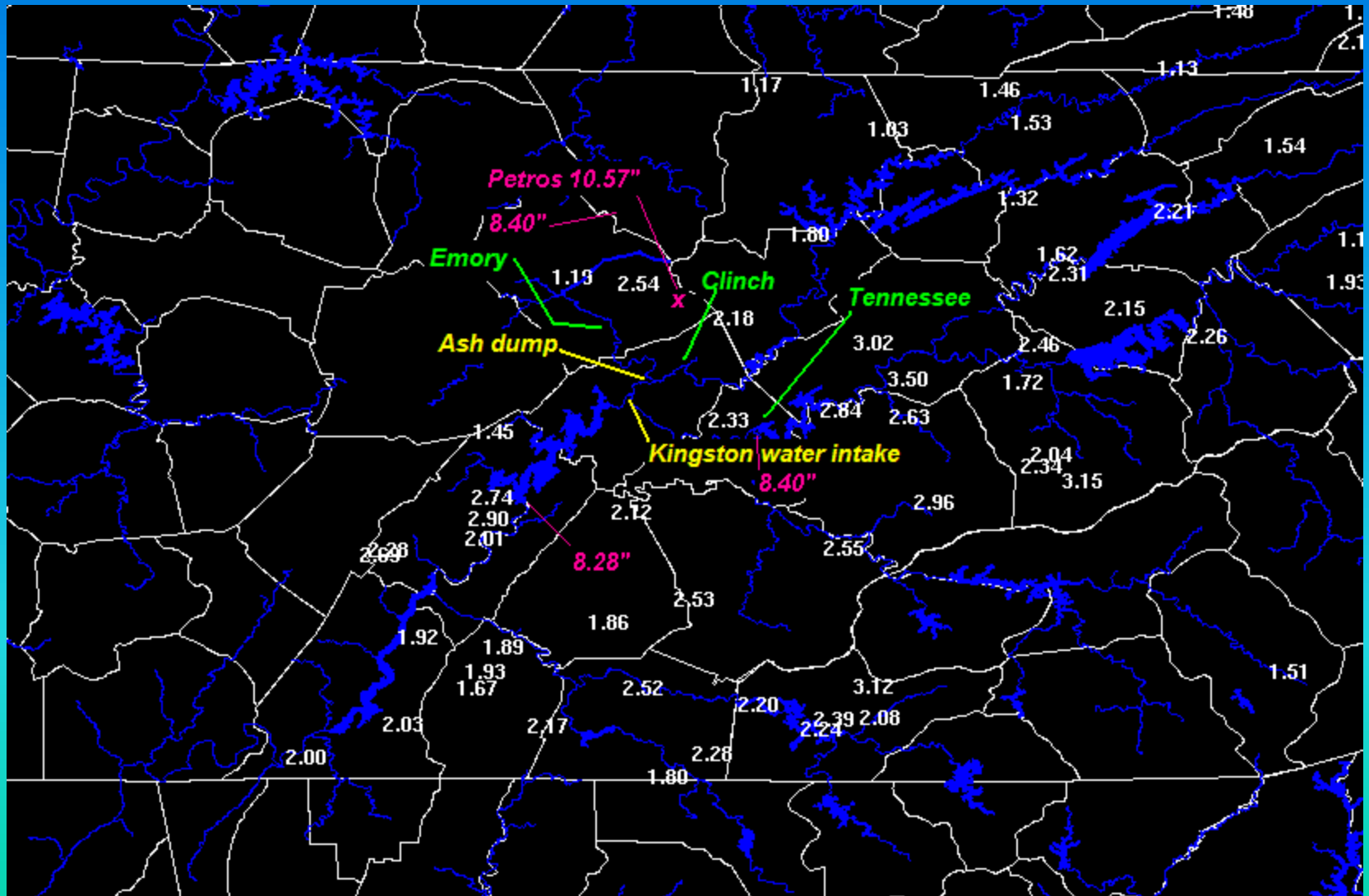
TVA Ash Spill

22 December 2008

Emory, Clinch, and Tennessee Rivers
affected initially
(and many more downstream)

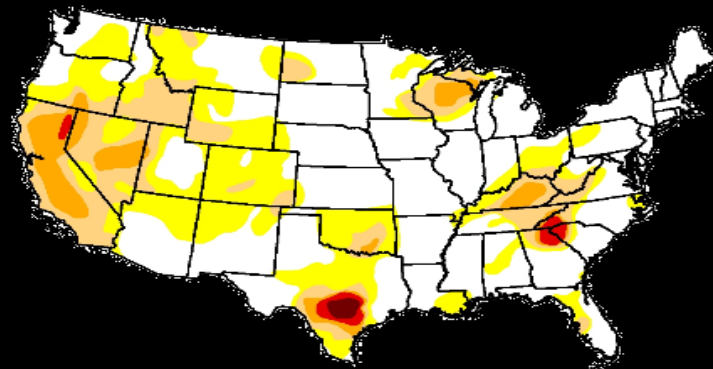
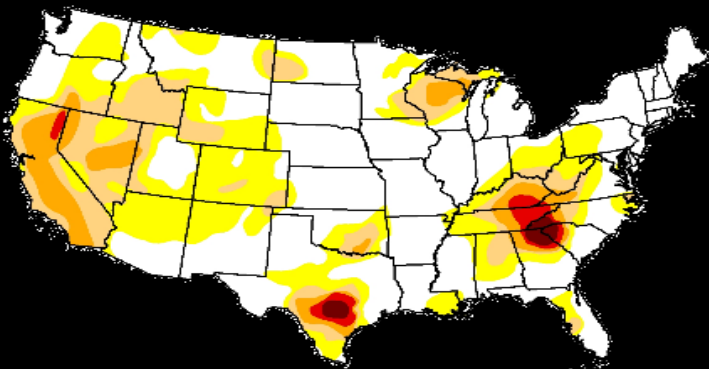
Brian Boyd
Service Hydrologist, WFO Morristown, TN
brian.boyd@noaa.gov
423-586-2296

~2 day rainfall December rainfall River names

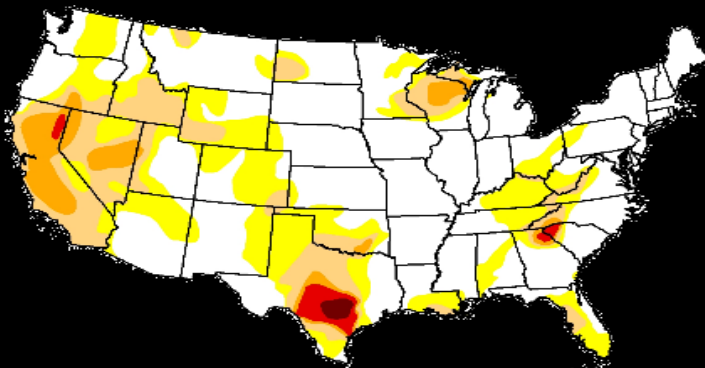


December 09, 2008 ▾

December 23, 2008 ▾



January 13, 2009 ▾



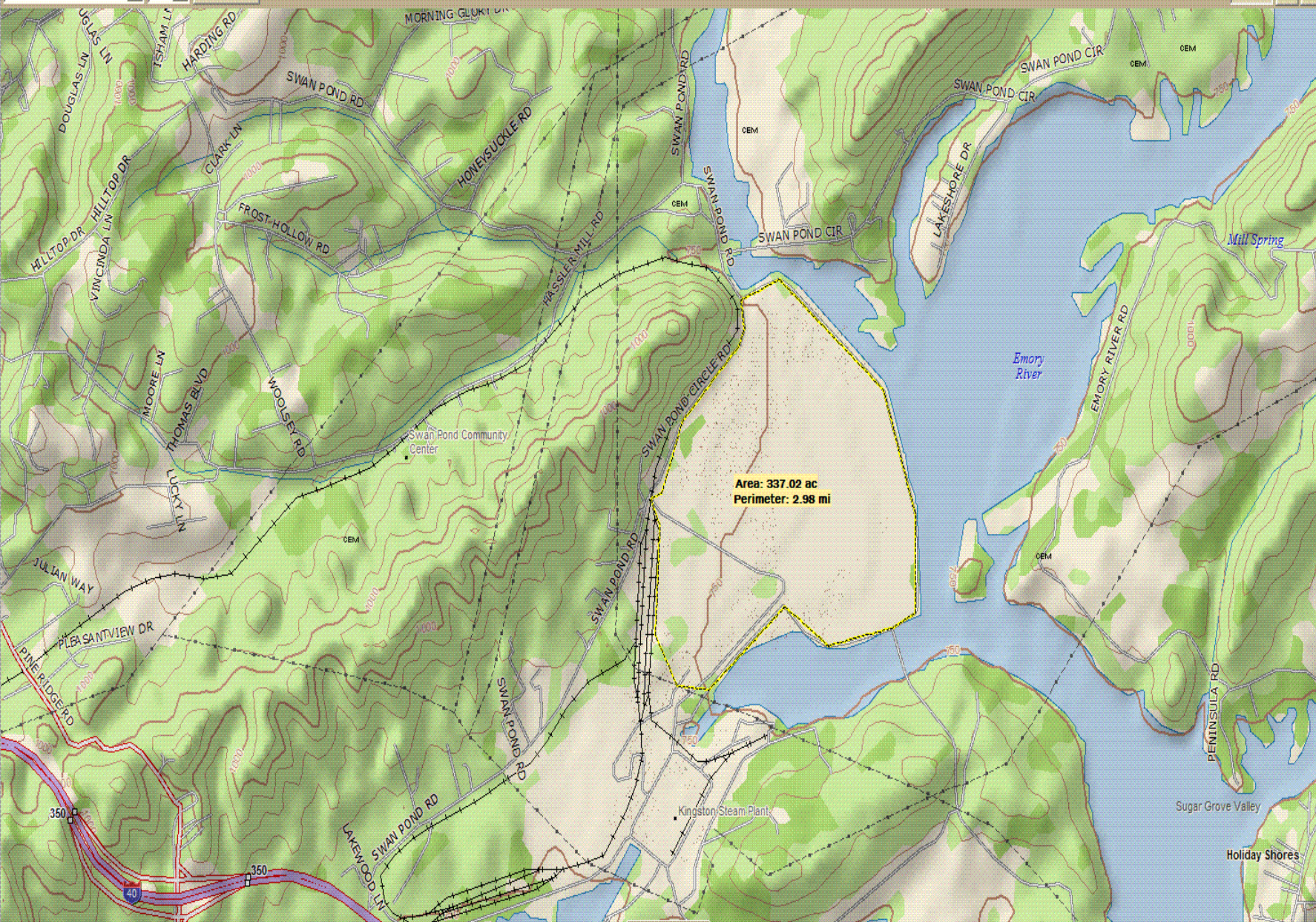
Excerpts from abstracts on coal ash

- “Compacted coal ash fills are likely to undergo collapse on inundation due to rise of water table or infiltration of rainwater.”
- “The ashes produced by the coal fired thermal power plants are stored as a high mound in the disposal dump. Some of the ash dumps and ash fill structures wetted under certain conditions of loading may exhibit collapse.”



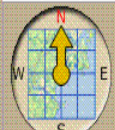
Topo USA 6.0 Data Series 2-D Show Roads

13-1



Topo USA 6.0

Data Zoom 13-1



0° (N)

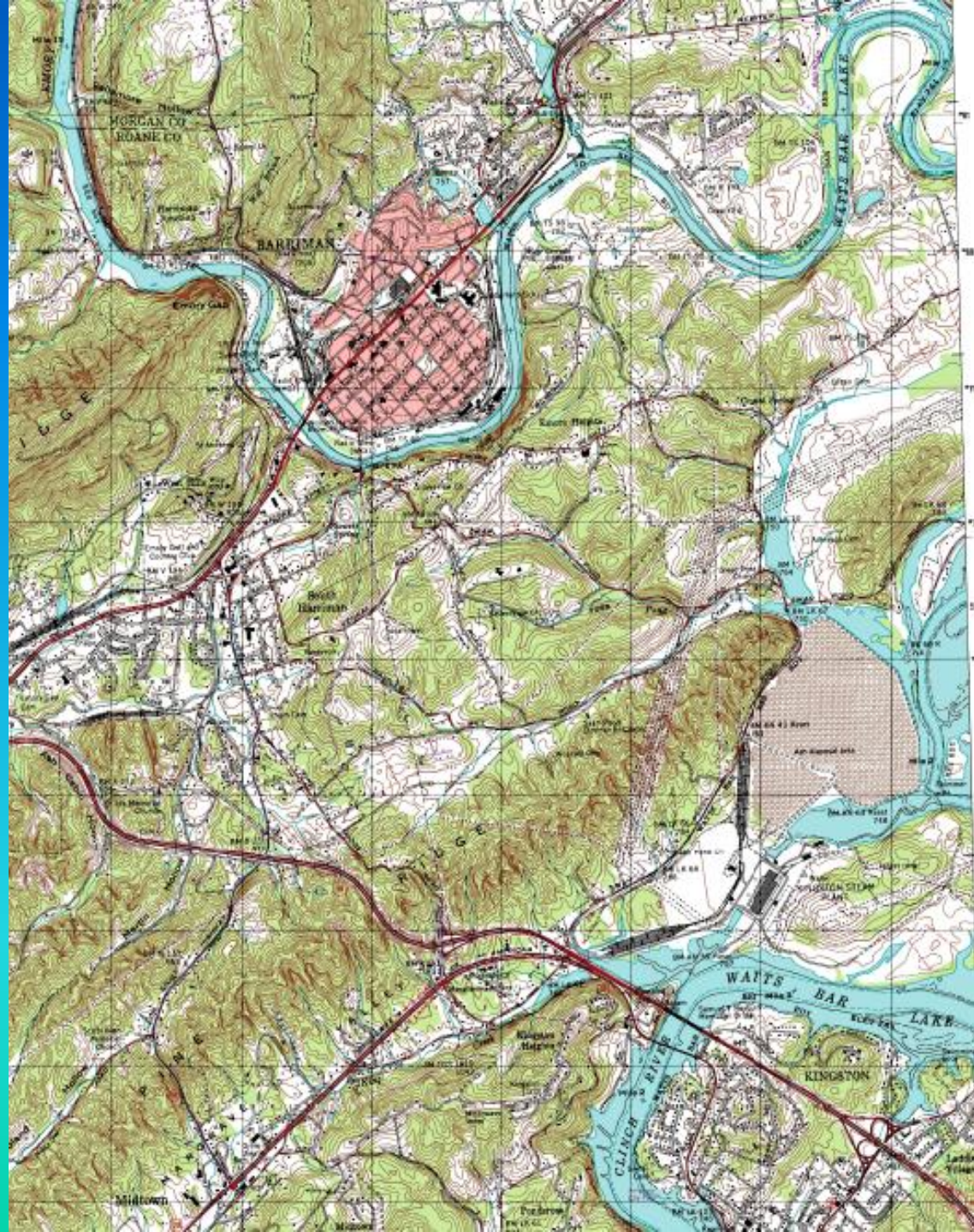
Latitude N35.91036°

Longitude W84.51829°

Elevation 774 feet

Interval 50 feet

0 ft 1000

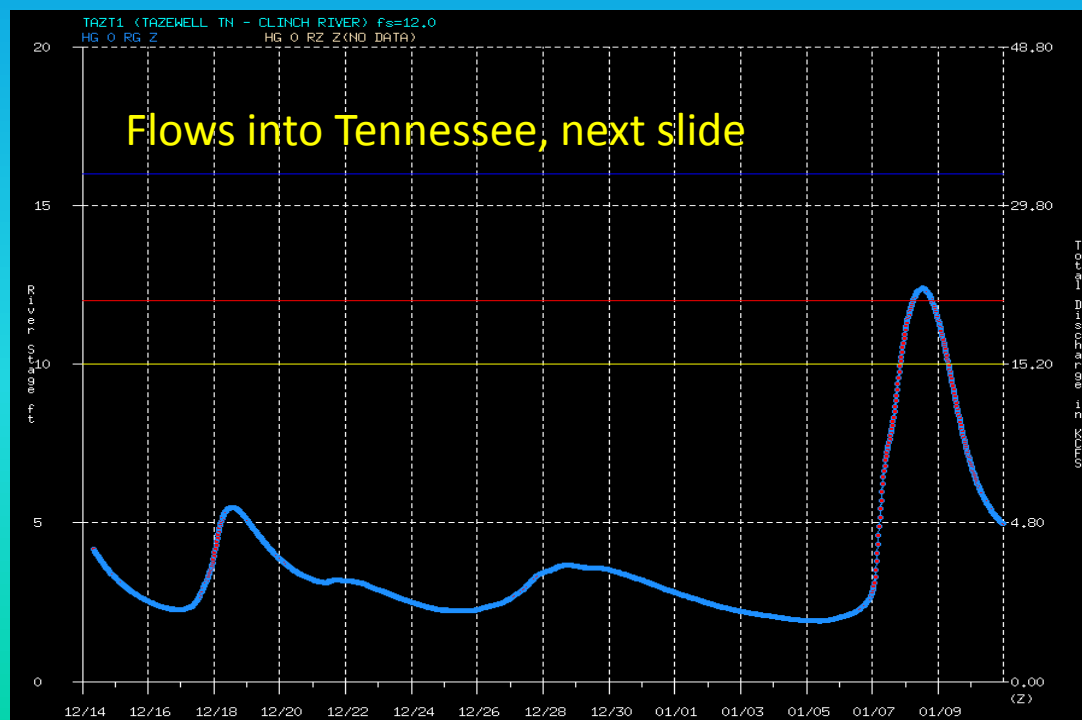
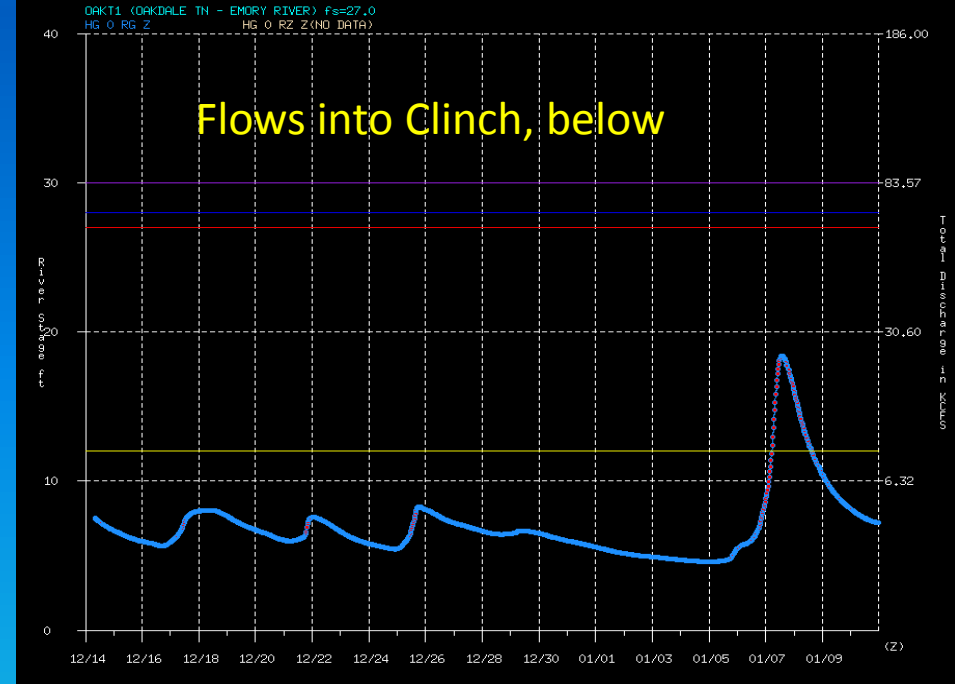
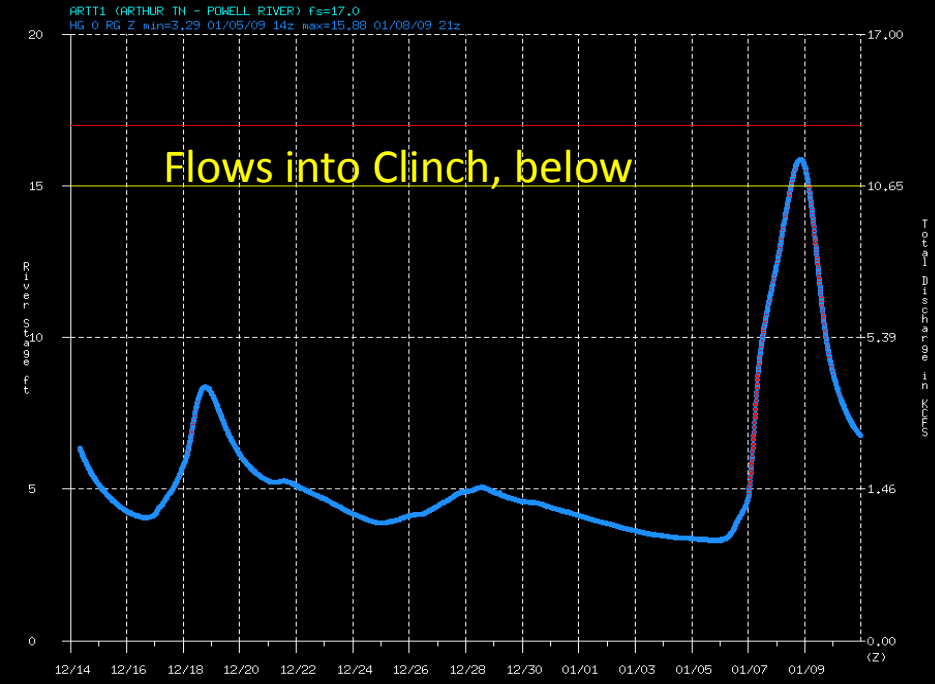


Kingston TVA coal ash dump spill = 5.4 million yards³
or about 1.1 billion gallons covering 400 acres to about 8 feet deep

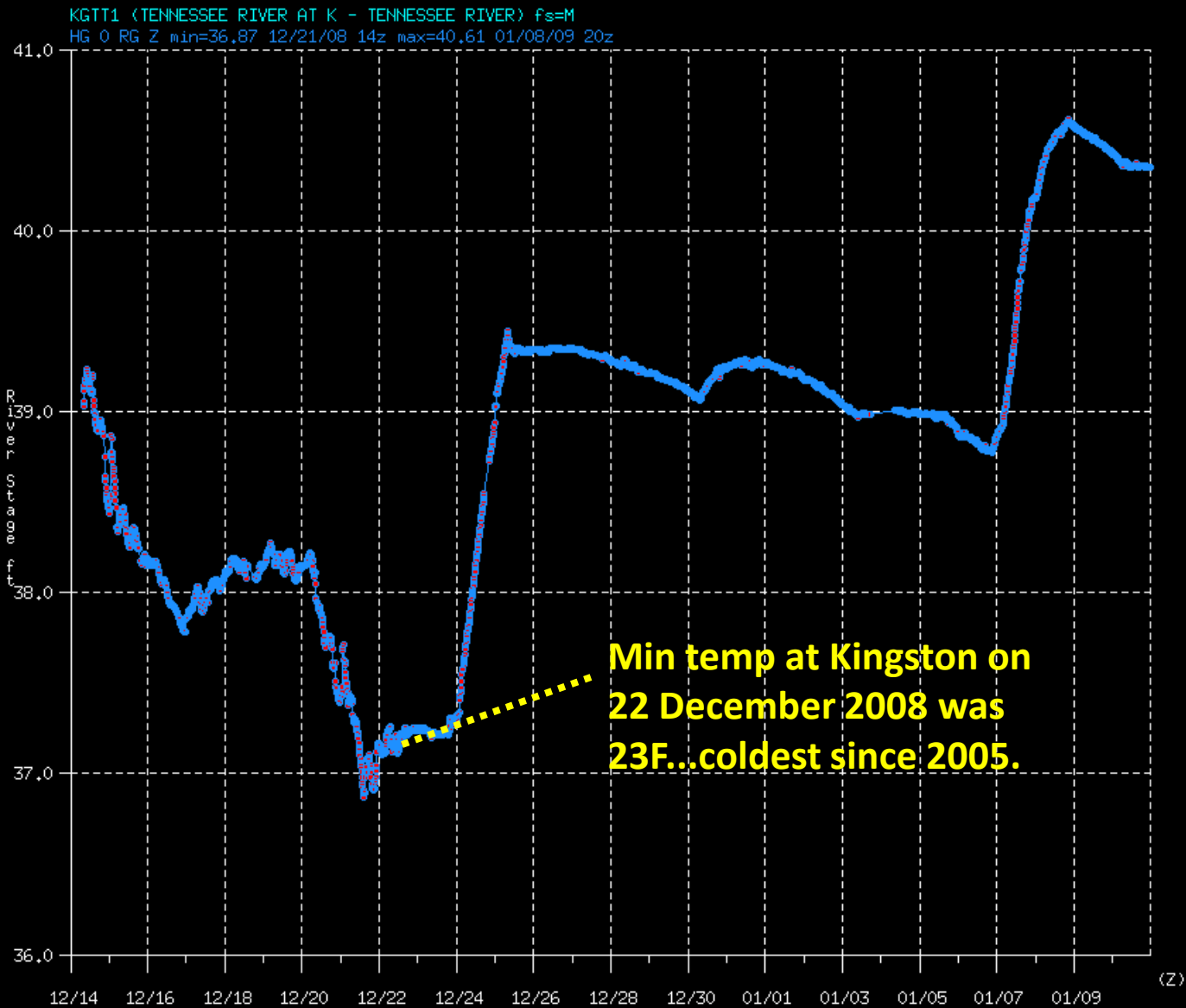
Exxon Valdez spill = 10.8 million gallons, eventually covering 11k mi²



Volume of TVA spill = 100 Exxon Valdez spills



Tennessee River at Kingston



Coordination between MRX, TVA, and LMRFC

During ash/flood event:

- *MRX provided continuous feedback on current river conditions, river forecasts and media reports
- *enabled direct talks between LMRFC and TVA when required
- *contacted LMRFC on behalf of TVA when asked
- *before responding to TVA-related questions from media, discussed appropriate responses with TVA
- *provided QPF and other weather forecasts for area affected by slump and clean up
- *stayed in constant contact with local emergency management officials

Coordination between MRX, TVA, and LMRFC

Continued:

- *LMRFC provided normal regular forecasts
- *updated forecasts whenever asked
- *talked directly to TVA, if necessary
- *provided hydrologic input on reservoir pool behavior and possible backflows near Kingston water intake
- *"negotiated" on other rivers in flood in politically sensitive areas (Chattanooga metro area)

Coordination between MRX, TVA, and LMRFC

But wait, there's more:

- *TVA provided information about ongoing clean up activities surrounding site
- *helped MRX answer questions from public, media, and legal counsel regarding behavior of material in stream channel
- *spoke to LMRFC directly when MRX was engaged in issuing other flood warnings and statements

MRX in-house situational awareness

- Office-wide briefings at shift changes and at other times regarding current hydromet conditions and forecasts
- Continuous discussions regarding staffing requirements, including on midnight shifts
- Delegation of duties to individuals with expertise in specific areas such as flooding, aviation, NWR, EMA coordination, etc.

Lessons learned by MRX

- *Successful coordination must start a LONG time before an event
- *When an event is expected, do not leave ANYTHING to chance (staffing, assigning duties, pre-calls to affected parties, etc.)
- *We get paid to deal with unexpected events **not** in our bailiwick. Offering hydromet support builds trust